

## REMARKS

Applicants respectfully request reconsideration of this application as amended. No claims have been amended or added. Claims 27-30 were previously cancelled. Therefore, claims 1-26 are presented for examination.

### 35 U.S.C. § 102 Rejection

Claims 1-4, 13-14, 18-19 and 22-25 stand rejected under 35 U.S.C. §102(e) as being anticipated by Emer, et al., U.S. Patent No. 6,493,741, (“Emer”).

Applicants respectfully submit that Emer discloses “a simultaneous multithreaded processor.” (Abstract). Emer further discloses that “[u]pon execution of a quiesce request instruction, quiesce logic . . . starts a quiesce timer, [and] *the quiesce logic sets the [thread processing unit] TPU’s state to quiesce mode, that is, the TPU is quiesced.*” (col. 5, lines 62-67; emphasis provided). Emer further discloses that a “QUIESCE is a conditional instruction, i.e. a request to quiesce, *or halt, execution of the thread executing the QUIESCE.*” (col. 5, lines 34-36; emphasis provided). When the “*QUIESCE instruction is executed . . . [the] execution of the thread is halted . . . the TPU ceases executing instructions from the program [and] . . . the TPU is quiesced.*” (col. 7 lines 33-36 and col. 8, 46-48; emphasis provided).

Claim 1, in pertinent part recites “putting a processor that is waiting for the contended lock to become available to sleep until an event occurs.” (emphasis provided).

Applicants submit that Emer does not teach or reasonably suggest such a feature.

Applicants respectfully submit that putting a processor to sleep is not equivalent to halting the execution of a thread that has executed a QUIESCE instruction. Emer discloses that when the “*QUIESCE instruction is executed . . . [the] execution of the*

*thread is halted . . . the TPU ceases executing instructions from the program [and] . . . the TPU is quiesced”* (col. 7 lines 33-36 and col. 8, 46-48; emphasis provided).

However, even though the quiesced TPU ceases to execute instructions from the program that executed the QUIESCE instruction, there is no teaching or reasonable disclosure in Emer that the TPU is put to sleep, or in other words that the TPU no longer executes instructions for other threads. Stated differently, the TPU is a multithreaded processor (Abstract), and so after one thread is halted, the TPU still continues to execute the other threads. In contrast, “putting a processor . . . to sleep until an event occurs” (claim 1; emphasis provided) means that “although the processor . . . [is] waiting for the lock to become available, it . . . sleep[s] while waiting.” (Specification paragraph [0017], lines 7-9). The TPU in Emer after being quiesced, is still able to execute other threads, while the processor in claim 1 is sleeping and thus not executing any threads. Accordingly, Applicants for at least the reasons stated above, respectfully request the rejection of claim 1 and its dependent claims be withdrawn.

Claims 13, 18 and 22 contain limitations similar to those of claims 1. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 13, 18 and 22 their dependent claims.

### **35 U.S.C. § 103(a) Rejections**

Claims 5 and 9-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Emer in view of Venkatasubramanian, U.S. Patent Application Publication No. 2003/0236816, (“Ven”).

As discussed above, Emer does not teach or reasonably suggest “putting a processor that is waiting for the contended lock to become available to sleep until an

event occurs.” (emphasis provided). Applicants respectfully submit that Emer and Ven, individually or combined, do not teach or reasonably suggest “putting a processor that is waiting for the contended lock to become available to sleep until an event occurs.”

(emphasis provided). Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 5 and 9-12.

Claims 6-7, 15-16, 20-21 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Emer in view of Panwar, U.S. Patent No. 6,035, 674, (“Panwar”).

With regard to claims 6-7, 15-16, 20-21 and 26, they depend from independent claims 1, 13, 18 and 22 respectively, and thus, include the limitations of the independent claim from which they depend. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 6-7, 15-16, 20-21 and 26.

Claims 8 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Emer and Panwar in view of Rodgers, et al., U.S. Patent Application Publication No. 2003/0126186, (“Rodgers”).

With regard to claims 8 and 17, they depend from independent claims 1 and 13 respectively, and thus, include the limitations of the independent claim from which they depend. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 8 and 17.

## **CONCLUSION**

In light of the foregoing, reconsideration and allowance of the claims is hereby earnestly requested.

### **Invitation for a Telephone Interview**

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

### **Request for an Extension of Time**

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.


### **Charge our Deposit Account**

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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